# PCT/KR2004/002590

**RO/KR** 12. 11. 2004

#### What is claimed is:

1. A pharmaceutical composition for improving brain functions comprising a triterpene compound represented by the Formula 1 as an active ingredient:

### [Formula 1]

wherein  $R_1$ ,  $R_2$  and  $R_4$  are independently  $CH_3$  and  $R_3$  is H;  $R_1$  and  $R_2$  are independently  $CH_3$ ,  $R_3$  is H and  $R_4$  is  $CH_2OH$ ; or  $R_1$ ,  $R_3$  and  $R_4$  are independently

CH<sub>3</sub> and R<sub>2</sub> is H.

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2. An agent for improving brain functions, which comprises as an active ingredient a triterpene compound represented by the Formula 1: control [Formula 1]

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wherein  $R_1$ ,  $R_2$  and  $R_4$  are independently  $CH_3$  and  $R_3$  is H;  $R_1$  and  $R_2$  are independently  $CH_3$ ,  $R_3$  is H and  $R_4$  is  $CH_2OH$ ; or  $R_1$ ,  $R_3$  and  $R_4$  are independently  $CH_3$  and  $R_2$  is H.

3. An agent for preventing and treating mild cognitive impairment and dementia, which comprises as an active ingredient a triterpene compound represented by the Formula 1:

#### [Formula 1]

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$$R_2$$
 $R_3$ 
 $OH$ 
 $OH$ 

wherein  $R_1$ ,  $R_2$  and  $R_4$  are independently  $CH_3$  and  $R_3$  is H;  $R_1$  and  $R_2$  are independently  $CH_3$ ,  $R_3$  is H and  $R_4$  is  $CH_2OH$ ; or  $R_1$ ,  $R_3$  and  $R_4$  are independently  $CH_3$  and  $R_2$  is H.

4. An agent for preventing and treating dementia comprising a triterpene compound represented by the Formula 1 as an active ingredient:

[Formula 1]

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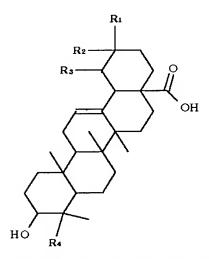
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wherein  $R_1$ ,  $R_2$  and  $R_4$  are independently  $CH_3$  and  $R_3$  is H;  $R_1$  and  $R_2$  are independently  $CH_3$ ,  $R_3$  is H and  $R_4$  is  $CH_2OH$ ; or  $R_1$ ,  $R_3$  and  $R_4$  are independently  $CH_3$  and  $R_2$  is H.

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5. A health food for improving brain functions comprising a triterpene compound represented by the Formula 1 as an active ingredient:

### [Formula 1]



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wherein  $R_1$ ,  $R_2$  and  $R_4$  are independently  $CH_3$  and  $R_3$  is H;  $R_1$  and  $R_2$  are independently  $CH_3$ ,  $R_3$  is H and  $R_4$  is  $CH_2OH$ ; or  $R_1$ ,  $R_3$  and  $R_4$  are independently  $CH_3$  and  $R_2$  is H.